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"American"

In referring to anything as American, it is usual in this country to mean it is of, or pertaining to, the United States. There is, however, no justification in the early history of the Western Hemisphere for such a limited use of the word "America" or "American." In 1517, the coast of what is now Brazil was called "America" in honor of Amerigo Vespucci, the first European explorer to visit that region. The term was rapidly extended to the remainder of South America and eventually to the entire Western Hemisphere.

It is not intended to discuss history or geography but a question of more immediate interest, the sense in which the Association is "American." The accounts that have come down to us of the founding of the Association indicate that the adjective "American" was put in its title primarily to make it clear that the society was to be truly national in scope. The Association has always been national but not national in any narrow sense. From the beginning the opportunity of becoming members of the Association has been open to scientists of the whole world, and, in whatever country members may reside, they have always had precisely the same status and privileges as those who live in the United States. Even under present war conditions over 400 Canadian scientists are members of the Association. Many Canadians have been officers of the Association, and Dr. J. Playfair McMurrich, of Toronto, was its president in 1922. Five meetings of the Association have been held in Canadian cities.

When the present war began there were members of the Association in 75 countries exclusive of continental United States—60 in the Philippine Islands, 36 in China, 29 in India, 12 in Australia, 12 in Switzerland, 8 in Sweden, 8 in Russia, etc. Now that communication with members who live in Europe and Asia is badly interrupted, the time is particularly opportune for it to become better acquainted with its members and other scientists in the Latin-American countries. Widening of acquaintanceship between North Americans (to use a geographical rather than a racial adjective) and Latin Americans is highly important. They have remained relative strangers primarily because the routes of trade and travel from both North and South America have led largely to Europe.

A little reflection makes it clear that the peoples of North America and of South America have much in common. The two continents were discovered at approximately the same time and by the same adventurous men. The lure of gold and of empire led to their exploration. The early colonizers of both continents often practised inhuman cruelties on native peoples, and they imported and enslaved black men from Africa to do their work. They gradually established homes and churches and educational institutions, all these in South America a little earlier than in North America. In struggles against the wilderness they learned the advantages of cooperation. They spread over their respective continents, won political freedom from Europe, and established republics in the pattern of the form of government adopted by the United States in 1781. Finally, after somewhat similar external quarrels and internal revolutions, the countries of the Americas became wealthy and attained a considerable degree of stability. They have builded great cities—New York with a population of 7,500,000; Buenos Aires, 3,500,000; Chicago, 3,400,000; Rio de Janeiro, 2,200,000; Philadelphia, 1,900,000; Detroit, 1,600,000; Los Angeles, 1,500,000; and São Paulo, 1,300,000. Now it is time to brush aside the frail barriers of differences in language and, by better acquaintance and closer cooperation, cross fertilize the culture of the United States and Canada, based largely on French and north European culture,

with that of Latin America, based largely on French and south European culture. It is difficult to mention even these differences in cultures without over-emphasizing their importance.

Nearly 300 members of the Association are residents of Latin American countries. They receive the A.A.A.S. BULLETIN and either *Science* or *The Scientific Monthly*, and in some cases all three journals. Recently, with the cooperation of the Coordinator of Inter-American Affairs, subscriptions for *The Scientific Monthly* have been provided for 175 libraries in Latin America.

These subscriptions for *The Scientific Monthly* will carry our compliments to our colleagues to the South. From what they read in this journal they will get some idea of the various currents of thought that are flowing through our minds in these historic days. But this one-way traffic is not sufficient, for Anglo-Saxon America has an even greater need for an understanding of the science and the culture of Latin America. It is hoped that each month *The Scientific Monthly* will be able to publish an article on Latin America, written at least in part by Latin Americans —on its science, its culture, its educational institutions, its public health, its archaeology, its flora and fauna, its natural resources and its agriculture.—F.R.M.

Science Shapes the Future[1]

I do not believe that future science is going to help humanity solve its basic problems when it merely substitutes aluminum for steel or magnesium for aluminum, or plastics for metals. Neither do I believe that humanity will get much farther ahead in associative plans by reducing the death rate from a given disease by 5 or 25 per cent. Both these objects are highly desirable. But neither one enlarges the already accepted ends of life or points a way toward better cooperative living.

Consider our present acute population problems, for example. They are inescapable and a universal morality about them is hard to come by. In 100 years the population of Brazil has increased 700 per cent and that of the United States at an even faster rate. The population of France increased more slowly. Australia's seven millions are opposed by Japan's seventy-two millions. How shall we meet the problem arising from the simple fact of increasingly unequal population densities and standards of living? It is a matter of high significance that one of the Sections of the recent United Nations Conference on Food and Agriculture at Hot Springs brought in a report that the problems of surplus agricultural population can not be met by shifting people somewhere else. The question is, rather, how can each country secure such a balance chiefly at home and chiefly by further industrialization?

These are problems not of disinterested scientific inquiry merely, but of cooperative intelligent living. They affect or grow out of the relations of peoples. They are not solved by spectacular discoveries in physics and chemistry but by firm moral decisions. They bring the science of geography, for example, squarely into the field of ethics and put it to use there as a means of knowing how other people live, not in terms of our experience only, but more importantly in terms of a general morality that serves as a canopy for both others and ourselves. Pure scientific research is admirable and, in fact, indispensable, but we have now reached the point where the world must suddenly get its international procedures advanced. The whole world will presently be thrown into the lap of the victorious allies. Every practical resource known to science will be required in quickly setting up the new order that will follow the war. Each nation must find the solution of its problems partly at home by the application of science to its resources and aptitudes and partly abroad as trade and industry develop again.

Studies in progress for the past 15 years on conditions of settlement and land development throughout the world are a case in point. These studies were begun in 1928 as a purely scientific inquiry in geography when there were no acute problems of refugees, no mass murders, no concentration camps. A science of settlement was developed, a rational scientific best use of land by people located on the fringes of pioneer settlement in Siberia, Canada, Brazil, and dozens of other countries not yet fully settled. Of a sudden these studies became the only practical and available basis for placing refugees.

In the post-war period of adjustment we must not let our absorption in recovery and in material means of living persuade us that we have enough of science. If we are to have benefits of future scientific discovery we must first maintain the scientific habit of mind.

The present war has shown us with startling clearness how foresighted our enemies were in many respects. As usual with world conquerors, they had a hole in their armor. The Japanese, for example, thought that they could meet us suc-

[1] Radio address on the program "For This We Fight," delivered June 12, 1943.

cessfully in combat by merely borrowing our scientific tools and armaments. What they overlooked was our *scientific inventiveness,* our *habit* of scientific thinking as a people. They counted our tools as the equal of our brains. They are now caught in the net of their own false reasoning. In the short time since the World War began we have both discovered and invented new tools in every arm of the service and every ship, gun, plane, and tank bears the stamp of our national aptitude in scientific creation. We are fighting with our brains: we are not fighting chiefly with old tools.

This is a lesson of mortal earnestness for the future. The products of science go everywhere. Secrets are short-lived. But scientific habits of mind, the encouragement of science as a field of creative endeavor, may again be our salvation in time of peril. Whether it is the high ends of a common humanity in a cooperative world or whether it is defense in time of war that we have in view, exploring science, high courage, and boldness are a trinity of qualities that will benefit the world of the future immeasurably if they are built into the foundations of a common humanity, a world for all of us and not for any one race or party or flag.—ISAIAH BOWMAN, President of the Association.

Resolution on Interrelations Among Scientists of the Western Hemisphere

The resolution on Interrelations Among Scientists of the Western Hemisphere, as revised by the Committee in accordance with suggestions and criticisms from members of the Council, was printed in the June number of the A.A.A.S. BULLETIN. Following are translations of the revised resolution into Portuguese and Spanish. Members desiring extra copies of this number of the BULLETIN for circulation among friends and acquaintances in Latin American countries may obtain them without cost by writing to the Office of the Permanent Secretary.

(*Translation into Portuguese*)

A Associação Americana para o Progresso da Ciência, uma organização que conta vinte e cinco mil membros e que abrange em sua generalidade tanto as ciências naturais como as sociais, sauda afetuosamente os cientistas de todo o hemisfério ocidental. Em razão da identidade de suas aspirações, os que laboram nas ciências constituem todos uma grande comunidade. E porque estão os membros dessa comunidade extensamente dispersos, êles podem ajudar a estabelecer mais funda compreensão e confianca mútua entre os povos que representam.

Na devoção da busca de conhecimentos e do saber, os cientistas nao os separam os limites das nações. O que investigam pode ser descoberto em qualquer terra; o que descobrem é pôsto ao serviço de todas. As nações do Novo-Mundo, relativamente jovens no que respeita à atividade científica, no passado recorreram à Europa para a inspiração e a disciplina técnica da produtividade universitária. Uma vez que tragicamente os apartaram de nós a devastadora guerra em que se empenham ou a subjugação que sofrem, valer-se dos povos europeus não é possivel. É oportuna a ocasião para os cientistas das nações americanas tomarem a si uma obrigação subentendida no que receberam no passado. Tanto quanto os esforços da guerra o concederem aos vários países das Américas, deve empreender-se a tarefa da realização do profundo significado que tem a indagação científica para o bem-estar da humanidade. Impõe-se agora aos países mais jovens do Oeste o timão da conquista científica. Por meio do intereâmbio intelectual êles podem exemplificar a interdependência dos cientistas, e, mais tarde, em tempos mais felizes, ajudar a que em todo o mundo se restabeleçam as atividades cooperadoras que são características do espírito científico. Estes são planos, cujo cometimento é razoavel. As amistosas relações entre os países americanos são caminho para confiança e estima mútuas. Nessas circunstâncias favoráveis, aos homens de ciência dêste hemisfério não deveria ser dificil manter viva a luz da lâmpada do saber, que em outras bandas bruxoleia ou se extingue.

Evidencia-se cada vez mais que o espírito científico implica em benefício para todos os povos. Até as consequências morais do pensamento científico são já reconhecidas e apreciadas. O conhecimento objetivamente demonstravel de nós mesmos e do nosso meio é a base sólida da fé num futuro mais auspicioso. Está hoje de todo justificada a confiança de que a ciência pode contribuir poderosamente para a satisfação destas aspiraçoes elementares da humanidade, de ver-se livre de privaçoes materiaes, de temor, de opressão e de deprimente labor rotineiro. Nessa atmosfera de liberdade a ciência floresce com vico e assim continua a difundir seus benefícios.

Em vista disso, a Associação Americana para o Progresso da Ciência reafirma a sua esperança de que cada vez mais nas naçoes do nosso hemisfério se observe a solidariedade dos investigadores de ciência e que empreendimentos cooperadores se promovam, no sentido de permuta de publicaçoes, de mais íntima reciprocidade acadêmica de estudantes e professores, e, quando possivel, de colaboração em pesquisa. De incalculaveis benefícios, tanto intelectuaes como materiaes, seguramente se enriquecerão as naçoes do Oeste com o progresso do conhecimento científico, com a aplicação dêste aos seus abundantes recursos, e com o estreitamento dos laços de amizade e uma apreciação afetuosa entre os seus cientistas. Com esse propósito, a Associação cordialmente oferece e solicita ampla colaboração.—Translated by Aristides A. Leao from the Resolution drawn up by Drs. Walter B. Cannon, Chauncey D. Leake and passed by the Council of the Association.

(*Translation into Spanish*)

La Asociación Americana para el Progreso de la Ciencia, una organización que tiene 25,000 miembros y que incluye en términos amplios tanto las ciencias naturales como las sociales, envía saludos cordiales a los hombres de ciencia en todo el hemisferio occidental. Por la unidad de su propósito los trabajadores cien-

tíficos constituyen una gran fraternidad. En vista de que los miembros de esta fraternidad están ampliamente dispersados, pueden ayudar a establecer una inteligencia mútua más honda y una confianza mútua más sólida entre los diversos pueblos que representan.

Las fronteras internacionales no separan a los hombres de ciencia en su devoción a la búsqueda del conocimiento y de la sabiduría. Las miras que ellos persiguen pueden ser descubiertas en cualquier país; sus hallazgos son ofrecidos para el servicio de todos. Las naciones del nuevo mundo, relativamente jóvenes en actividad científica, han vuelto su mirada en el pasado hacia Europa como fuente de inspiración y de la disciplina técnica de la productividad universitaria. Ya que los pueblos europeos están ahora entregados a la guerra destructora o bien son víctimas de la subyugación, están trágicamente distanciados de nosotros. En consecuencia no es posible recurrir a ellos. El momento es oportuno para que los hombres de ciencia de las naciones americanas se infieran a sí mismos una obligación que está implicada en los beneficios que han recibido en el pasado. La tarea de llevar a cabo la honda significación de la investigación científica para el bienestar humano debe ser aceptada hasta donde lo permita el esfuerzo marcial de los diversos países de las Américas. Les toca ahora a los países jóvenes de Occidente el papel de dirigir los esfuerzos académicos. Por medio del intercambio intelectual pueden dar el ejemplo de la interdependencia de los trabajadores científicos, y más tarde, en épocas más felices, pueden ayudar a restablecer universalmente las actividades cooperativas que son características del espíritu científico. Estos son proyectos de empresa razonable. Las relaciones amistosas que rigen entre las naciones americanas favorecen la estimación y confianza mútuas. En estas circunstancias óptimas, los hombres de ciencia en el hemisferio occidental no encontrarán difícil mantener viva la llama de la lámpara de la sabiduría mientras que vacila o se obscurece en otras partes.

Es más evidente cada día que el espíritu científico redunda en beneficio de todos los pueblos. Aun las consecuencias morales del caudal científico son ya reconocidas y apreciadas. Un conocimeinto objetivamente demostrable de nosotros mismos y de nuestro medio es la base sólida de la fé en un futuro más favorable. Está plenamente justificada la confianza en que la ciencia puede contribuir poderosamente a la satisfación de las metas humanas elementales: la conquista de la privación material, la abolición del temor, la liberación de las labores deprimentes rutinarias. En ese ambiente de liberación la ciencia se fortaleza y fructifica y continúa así sus beneficios.

La Asociación Americana para el Progreso de la Ciencia expresa por lo tanto el deseo de que en las naciones del hemisferio occidental la solidaridad de los investigadores científicos sea reconocida más y más, y de que los proyectos cooperativos aumenten: el intercambio de publicaciones, la reciprocidad académica de estudiantes y de profesores, y, cuando posible, el desarrollo de proyectos cooperativos de investigación. Habrá beneficios incalculables, tanto intelectuales como materiales, que seguramente enriquecerán a las naciones del Oeste como consecuencias del progreso de la ciencia, de la aplicación de los recursos abundantes de dichas naciones, y del fortalecimiento de los lazos de amistad y de apreciación afectuosa entre sus trabajadores científicos. Para estos propósitos la Asociación ofrece e invita cordialmente colaboración generosa.—Translated by Arturo Rosenbleuth from the Resolution drawn up by Drs. Walter B. Cannon and Chauncey D. Leake and passed by the Council of the Association.

The National Academy of Sciences to 1917

On March 3, 1863, President Lincoln approved an Act of Congress incorporating the National Academy of Sciences. The act provided that "the National Academy of Sciences shall consist of not more than fifty ordinary members," a limitation on the membership that was removed by an amendment which was approved by President Grant on July 14, 1870. The present limit on the number of members, as determined by the Academy itself, is 450. There are now 340 members and 45 foreign associates.

Since the National Academy of Sciences was established by an Act of Congress near the close of the second year of the Civil War, it might be inferred, and correctly, that one of the reasons for its founding was to set up machinery by means of which the Government could secure the aid of scientists for special problems and in emergencies. The provision in the Act of Incorporation relating to this subject is as follows.

And be it further enacted That the National Academy of Sciences shall hold an annual meeting at such place in the United States as may be designated, and the Academy shall, whenever called upon by any Department of the Government, investigate, examine, experiment, and report upon any subject of science or art, the actual expense of such investigations, examinations, experiments, and reports to be paid from appropriations which may be made for the purpose, but the Academy shall receive no compensation whatever for any services to the Government of the United States.

Shortly after the passage of the Act of Congress establishing the Academy, Senator Henry Wilson of Massachusetts, who introduced the bill, called a meeting in New York City on March 18 of the 50 men whose names were mentioned as incorporators for the purpose of organization. The following passages from his stirring address illustrate the sentiments that prevailed in official circles at that perilous time in the history of the United States.

This Act, under which you have met to organize, incorporated in America, and for America, a National Institution, whose objects, ranging over the illimitable fields of science, are limited only by the wondrous capacities of the human intellect. Such an institution has been for years in the thought and on the tongue of the devotees of science, but its attainment seemed far in the future. Now it is an achieved fact. Our country has spoken it into being, in this "dark and troubled night" of its history, and commissioned you, gentlemen, to mould and fashion its organization, to infuse into it that vital and animating spirit that shall win in the boundless domains of science the glittering prizes of achievement that will gleam forever on the brow of the nation.

. . . . . .

The suggestion was sometimes made that the nation is engaged in a fearful struggle for existence, and the moment was not well chosen to press such a measure. But I thought otherwise. I thought it just the fitting time to act. I wanted the *savans* of the old world, as they turn their eyes hitherward, to see that amid the fire and blood of the most gigantic civil war in the annals of nations, the statesmen and people of the United States, in the calm confidence of assured power, are fostering the elevating, purifying, and consolidating institutions of religion and benevolence, literature, art and science. I wanted the men of Europe, who profess to see in America the failure of republican institutions, to realize that the people of the United States, while eliminating from their system that ever-disturbing element of discord, bequeathed to them by the colonial and commercial policy of England, are cherishing the institutions that elevate man and ennoble nations. The land resounds with the tread of armies, its bright waters are crimsoned, and its fields reddened with fraternal blood. Patriotism surely demands that we strive to make this now discordant, torn, and bleeding nation one and indivisible. The National Academy of Sciences will, I feel sure, be now and hereafter another element of power to keep in their orbits, around the great central sun of the Union, this constellation of sovereign commonwealths.

The first officers of the Academy were Alexander Dallas Bache, president; James Dwight Dana, vice president; Louis Agassiz, foreign secretary; Wolcott Gibbs, home secretary; and Farman Rogers, treasurer. Bache (geography) had been President of the Association in 1850 and was Superintendent of the Coast Survey when he was elected President of the Academy; Dana (anthropology) had been President of the Association in 1854 and was Professor of Natural History at Yale University in 1863; Agassiz (geology) had been President of the Association in 1851 and was Professor of Zoology in Harvard University in 1863; Wolcott Gibbs (chemistry) was Rumford Professor of Chemistry in 1863 and became President of the Association in 1897; and Rogers was Professor of Civil Engineering in the University of Pennsylvania.

From the founding of the Academy in 1863 until the United States entered the World War in 1917 there had been eight presidents of the National Academy of Sciences: Alexander D. Bache (1863–67), Joseph Henry (1868–78), William B. Rogers (1879–1882), Othniel C. Marsh (1883–1895), Wolcott Gibbs (1895–1900), Alexander Agassiz (1901–1907), Ira Remsen (1907–1913), and William H. Welch (1913–1917). Before his election, every one of these eight presidents of the Academy, except Gibbs, had been President of the American Association for the Advancement of Science, and Gibbs was elected President of the Association during his term of office as President of the Academy. The fact that for more than 50 years every president of the National Academy of Sciences also served as a president of the American Association for the Advancement of Science proves the close relationship that has existed between these organizations from the founding of the Academy. The Academy of limited membership made up exclusively of the most eminent of American scientists has been the official adviser of the Government on scientific questions. The Association, whose membership is open to all who find pleasure in science and see in it the hope of a better world, operates on a broader front with the purpose of advancing science in every possible way. It considers problems of national importance, in which the Government is actively interested, and it explores the highways and byways of science under the conviction that its coordination and broad dissemination are also advantageous to both science and society.

In the first 50 years of its existence (1863–1913) the National Academy of Sciences rendered direct service to the Government through committees appointed by the Academy on request of the Government. In this period 53 committees of the Academy were appointed, 6 in accordance with Acts of Congress, 2 at the request of Joint Commissions and Committees of Congress, 2 at the request of the President of the United States, 24 at the request of the Treasury Department, 8 at the request of the Navy Department, 5 at the request of the War Department, 2 at the request of the Department of State, 2 at the request of the Department of Agriculture and 2 at the request of the Department of the Interior. Even the titles of the subjects the committees were appointed to investigate illustrate the great changes that have taken place since the Academy was established. For example, committees were

appointed to investigate and report on such subjects as: 1863, the National Currency; 1879, a National Board of Health; 1882, Triangulation Connecting the Atlantic and Pacific Coasts; 1884, Philosophical and Scientific Apparatus; 1896, the Inauguration of a Rational Forest Policy for the Forested Lands of the United States.

The Near Future of the Association

Last year, after plans were well under way, it became necessary to postpone and then to cancel the annual meeting of the Association. The impending invasion of Africa by the Allied forces had put burdens on transportation that were not fully known at the time. This year what may take place is equally uncertain, but the whole world is tense with expectation that greater military struggles than have ever been known may begin any day. Under these conditions it is impossible at present to make plans for five or six months in the future with any confidence they can be carried out.

Yet the fact that great events appear to be pending and that the future is uncertain does justify a policy of mere drifting. The changes that are rapidly going on in the world will probably affect science and scientists as much as anything else. Scientists undoubtedly will have new and heavier responsibilities than they have carried in the past. It has been the technological products of their scientific work that in a very short time has made all the peoples of the world neighbors in a physical sense. It may well be their mission to contribute greatly to making all peoples neighbors in the sense of their becoming cooperating friends. Certainly they will greatly increase their contributions to human welfare. Now is the time to formulate basic policies for the development of concrete plans to be put into effect as soon as possible. Such preparation is as important on the scientific front as on the military.

It is probable that within two or three months the pattern of military developments for this season will become clear, and that the general effects of these campaigns on this country will be known. It is planned to hold a conference at that time of the secretaries of the sections and of the affiliated societies that usually meet with the Association for the purpose of discussing plans for the future, including the question of a general meeting in December or at any other time that may appear to be more convenient under the conditions at that time. The time and place of the meeting will be announced as soon as it appears feasible to set a date for such a conference.

The fact that a date for the conference has not been set need not deter the officers or members of the Association from reflecting on the great problems that lie before scientists. Instead, there will be an interval in which they may dream dreams without the necessity of attempting to put them into effect. Great achievements have grown out of what were once only dreams, which became hopes and finally objectives. Undoubtedly Galileo, Newton, Faraday and other heroes of science passed through these stages. At the present time it is highly appropriate for all scientists to inquire what are the objectives of science. Clearly a tide favorable for science is now flowing. Shakespeare, in *Julius Caesar*, referred to a tide in the affairs of men that, taken at its flood, would lead on to fortune. There is equal wisdom in James Russell Lowell's ripost, "Truly there is a tide in the affairs of men, but there is no Gulf Stream setting forever in one direction." Scientists have largely created their own tide and the conference that is planned is for the purpose of directing it to worthy goals.—F.R.M.

Electrical Engineers

In continuation of the series of brief historical sketches of affiliated societies which have been printed in recent numbers of the Bulletin, an outline of the history of the American Institute of Electrical Engineers is presented below. This organization has been officially affiliated with the Association since 1920.

American Institute of Electrical Engineers

The American Institute of Electrical Engineers was organized in 1884. Its objectives are "the advancement of the theory and practice of electrical engineering and of the allied arts and sciences and the maintenance of a high professional standing among its members," or, as paraphrased by one of its recent Presidents, to promote better electrical engineering, and to make better electrical engineers.

Honorary Members are chosen by unanimous vote of the Board of Directors from among those who have rendered acknowledged eminent service to electrical engineering or its allied arts. Of the 35 Honorary Members so far elected, 6 are now living, including former President Herbert Hoover and Lieutenant-General A. G. L. McNaughton, Commander in Chief, Canadian Active Service Force.

Grades of membership, based upon increasing amounts of experience and responsibility in electrical engineering work, and the corresponding annual dues are: Associate, $10 during the first six years, $15 thereafter; Member, $15; and Fellow, $20.

The first general meeting of the Institute was held in Philadelphia in 1884, and the present practice of

holding the June meetings in various parts of the country has been in effect since 1890. In 1894, arrangements were made to hold monthly meetings, such as previously were held in New York only, simultaneously in Chicago and New York, with the same paper presented and discussed in each city. Normally, three national meetings and from two to four geographical district meetings are held each year. The Institute has 72 local sections, and 125 student branches, which have in recent years held a combined total of from 1,600 to 2,000 meetings per year.

At the end of 10 years, the membership had reached 800, and on May 1, 1902, it was 1,549. The adoption, in 1902, of a plan for organizing local sections to afford opportunities in all principal electrical centers for more direct participation in the activities of the Institute inaugurated a rapid rate of growth in membership which has been well-sustained except in period of severe business depression. The membership on March 1, 1943, was 20,081, which is materially above the highest pre-depression membership, and is higher than that of any other American engineering society.

In order to extend further the opportunities for individual participation in meetings of special interest, many of the sections have organized technical groups, technical committees, special discussion groups, etc. In other cases, geographical subsections have been formed in cities rather remote from regular section meeting places. With the exception of certain areas in two states, all of the United States has been assigned to section territories.

For about 40 years the Institute has had plans in operation for enrolling students in electrical engineering curricula and for forming student branches in the leading schools having curricula in that field. These enrolled students receive in return for the annual fee of $3 the monthly publication *Electrical Engineering* and the right to full participation in branch activities. On March 1, 1943, the number of enrolled students was 5,338.

Standardization in the electrical field was early recognized as an important function of the Institute, and the first Committee on Standardization was appointed in 1898. It was composed of seven members having experience in design, manufacture, and operation. The first report was approved at a meeting of the Institute in 1899, and frequent revisions were prepared and adopted, these standards forming an authoritative basis of American practice. Institute standards have for more than 20 years been issued in separate sections, of which there are now about 40. Many A.I.E.E. standards receive the approval of the American Standards Association, and thus become known as "American Standards." A recently developed standard in this latter group is the comprehensive volume entitled "Definitions of Electrical Terms."

Under the general supervision of the Board of Directors, 20 general and 19 technical committees are responsible for the conduct of the many divisions of the activities. In all, they include several hundred of the most active members, and changes are made each year to afford opportunities for the appointment of new committee members.

Since 1941, the monthly journal has borne the name *Electrical Engineering*. The technical section of the journal, some additional technical papers, and all published discussion of papers constitute the contents of the annual *Transactions*. Each publication is now in its 62d volume.

The Institute awards the Charles LeGeyt Fortescue Fellowship in electrical engineering, the Edison Medal for meritorious achievement in electrical science or electrical engineering or the electrical arts, and the Lamme Medal for meritorious achievement in the development of electrical apparatus or machinery. It cooperates with other engineering societies in the selection of the recipients of the Alfred Noble Prize, Marston Medal, Washington Award, Hoover Medal, and John Fritz Medal. Annual cash prizes are offered in national and geographical district competitions for outstanding papers in several groups, including provisions for members and enrolled students.

Beginning with an offer of its services to the President of the United States in connection with problems of national defense, in June, 1940, and continuing through many steps as conditions changed, the Institute has endeavored to supply the maximum possible assistance in the war efforts. The services of its Committee on Cooperation with War Agencies were offered to the several government divisions most likely to need such assistance as it might be able to render. Besides its contributions in other phases of war activities, the committee has extended particularly valuable assistance to the armed forces in the selection of electrical engineers qualified for commissions in certain highly specialized branches of the services.

The President of the Institute appointed a special committee to confer with representatives of the Conservation Division of the War Production Board on the substitution of silver for copper and aluminum in electrical installations.

General cooperation has been extended in many undertakings, including the National Roster of Scientific and Specialized Personnel, census of engineering construction firms, extension of subcontracting plans, and study of supply of and demand for engineers.

A great many of the sections have held meetings devoted to conservation of critical materials and other subjects important in the war efforts, and have also cooperated in various types of war problems in their localities.

The national technical meetings and the district technical meetings are devoted as largely as possible to papers closely related to war efforts; and programmed social activities, entertainment, and trips not forming a part of the technical program are omitted.

Under the policy, stated above, of planning meetings to be of maximum assistance in the war efforts, the Board of Directors has considered it desirable to hold the usual number of national and district meetings. The 1943 schedule, to which one district tech-

nical meeting may be added later is: National technical meetings in New York, N. Y., January 25–29, Cleveland, Ohio, June 21–25, and Salt Lake City, Utah, September 2–4; district technical meetings in Pittsfield, Mass., April 8–9, and Kansas City, Mo., April 28–30.

The Institute is primarily a technical organization, and its objectives are based upon broad, unselfish motives. It does not in any sense represent industries, and does not engage in political matters. In its plans to encourage technical developments which will aid in general progress, and in recognition of the great importance of improved personal qualifications, a guiding principle throughout its activities is the provision of adequate opportunities for participation in a wide range of work which will be interesting to students and members, and, at the same time, will be helpful in their own personal development and advancement.—H. H. HENLINE, National Secretary.

Association Membership in Latin America

There are at present 268 members of the Association, of whom 55 are Fellows, who are residents of 19 different Latin American countries or distinct political units. Mexico, our neighbor adjoining on the South, has the distinction of having the largest number, 60. It is followed by Argentina, with 37, and Brazil, with 28.

The republic of Venezuela has 23 members of the Association and is closely followed by Colombia and Cuba, each with 22 members, and by Peru, with 21 members. Ecuador and Costa Rica have 9 members each. The remaining countries and their respective representation on the membership roll of the Association are: the Canal Zone and Panama, each 5; Bolivia, British Guiana, Guatemala, Haiti, Honduras and Nicaragua, each 4; Chile and Uruguay, each 3; and Curaçao, Dominican Republic, and Paraguay, each 1.

In view of the distances of most of the Latin American countries from the United States, the differences in language, and the adverse rates of monetary exchange, the number of our colleagues to the South who are members of the Association is remarkable and gratifying. There are more than half as many of them as there were members of the Association in the early years of its existence. At the rate that distances have been shrinking in recent years it is not improbable that after the close of the war Latin American scientists will attend our meetings more frequently, particularly if we give more careful attention to acting as hosts to our colleagues from other countries.

Officers of the Association

President, Isaiah Bowman; *Permanent Secretary,* Forest R. Moulton; *General Secretary,* Otis W. Caldwell; *Treasurer,* C. Carroll Morgan; *Assistant Secretary,* Sam Woodley.

Executive Committee: Burton E. Livingston, *Chairman;* Roger Adams, Joseph W. Barker, Isaiah Bowman, Otis W. Caldwell, Walter B. Cannon, J. McKeen Cattell, Roy E. Clausen, Kirtley F. Mather, F. R. Moulton, and W. E. Wrather.

Membership in the Association

According to the Constitution, the objects of the Association are to promote intercourse among those who are cultivating science in different parts of America, to cooperate with other scientific societies and institutions, to give a stronger and more general impulse and more systematic direction to scientific research, and to procure for the labors of scientific men increased facilities and a wider usefulness. Members may reside in any country. A person desiring to become a member of the Association should fill in a membership application card that may be obtained from the Office of the Permanent Secretary and return it with his payment of $5.00 for one year's dues. Every member in good standing receives with his membership a subscription for either *Science* or *The Scientific Monthly.* Dues are for the fiscal year that begins October 1; the subscription begins the following calendar year. A member desiring to receive both journals concurrently may do so by paying $3.00 in addition to the regular dues. Members in good standing receive also, without extra charge, subscriptions for the A.A.A.S. BULLETIN, and they may purchase symposia publications at prepublication prices, and after publication at special prices to members.

A person who pays $100 during one fiscal year may be elected a life member; sustaining members pay $1,000. Both classes are exempt from the payment of further dues but are entitled to all the privileges of membership.

An incorporated scientific society or institution or a public or incorporated library may become a member by paying the entrance fee of $5.00 in addition to the dues. Such institution members are entitled to the same privileges as individual members.

Members are encouraged to nominate for membership persons who desire to cooperate in carrying out the objects of the Association. Names may be sent to the Office of the Permanent Secretary at any time. In the letter of invitation to become a member of the Association the name of the person making the nomination is ordinarily mentioned.

Changes of Address

New addresses for the Association's record and for mailing the journals *Science* and *The Scientific Monthly,* as well as the A.A.A.S. BULLETIN, should be in the Office of the Permanent Secretary, Washington 25, D. C., at least two weeks in advance of the date when the change is to become effective.